streeme

Installation Guide v 2.0
Sample University

Month Day, Year

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Introduction

Overview

The Streeme HLS streaming TV system is a turn-key technical and business solution that distributes live and recorded content from satellite or over-the-air content providers to end user devices. Using adaptive bitrate (ABR) with HTTP live-streaming allows distribution in several backbone scenarios including cable modem, fiber, Wi-Fi, or private LTE.

Live-TV content is delivered via satellite, and all signal processing is done on premise, drastically reducing internet bandwidth requirements. Because all streaming sources are local, the quality, reliability, and resolution of the streams are never compromised for subscribers.

Platform freedom means subscribers can use their device of choice for viewing such as a PC, iPhone, Android phone, Amazon Fire, or Roku device.   Platform freedom also means eliminating the need to inventory, manage, and maintain set top box devices.

Subscriber validation is secured though SSL connection to our servers hosted at AWS. Our AWS servers also provide AES-128 encryption information, electronic program guide data, and personalized announcements that appear on subscriber devices. Streeme remotely monitors and manages all streaming equipment and provides an SLA of four-hour response on hardware issues.

In addition to live and recorded TV, Streeme allows service locations to manage subscriber provisioning and communications via TVServicePortal.com.

Satellite receiver device

- COM3000 receives satellite content.
- COM3000 transmits live-TV data in the clear or as Simulcrypt-protected multicast to the Unified Media Server using a direct connection via 10Gbs SFP+ interface. An aggregation switch may be used to support multiple source devices.
- 1Gbs admin link.

Unified Media Server

- Receives satellite receiver content from direct 10Gbs ethernet link or aggregation switch.
- Runs Simulcrypt if necessary.
- Transcodes content into two ABR format streams of 800kbps and 2.5Mbps packaged in 2 second HLS segments for wireless-friendly distribution.
- Encrypts to AES-128.
- Archives live data for catch-up TV to 24 onboard SAS HDDs.

- Each node provides unique streams of live or recorded channel data.
- Output - up to 1,200 unique content streams per Unified Media Server, configuration dependent.

Supplemental Transcoder

- Receives satellite receiver content from direct 10Gb ethernet link
- Runs Simulcrypt if necessary
- Transcodes content into two ABR format streams of 800kbps and 2.5Mbps packaged in 2 second HLS segments for wireless-friendly distribution
- Encrypts to AES-128
- Provides unique streams of live channel data to the Unified Media Server over point-to-point 1Gbs links.
- Storage – streams are not stored by Supplemental Transcoders.

Subscriber Provisioning

Subscribers are provisioned using a whitelist methodology at TVServicePortal.com. Please use the following CSV format with headers as shown. The entire whitelist MUST be uploaded each time. The system will vet and manage changes to the subscriber population.

First name	Last name	Email
Sample	Person	sample@email.com

Temporary subscriber adds or deletions may also be done on TVServicePortal.com.

Announcements

Graphic Announcements are published at TVServicePortal.com. The announcements must have the following characteristics.

- 1920x540 (JPG, Landscape)
- 800x600 (JPG, Portrait)

All Announcements allow scheduling of begin date, end date, player platform and one or more subscribers.

Integration with existing network infrastructure

Customer configuration requirements

Implementation of the Streeme system is a fairly straightforward process. We will be delivering secure IP content using the settings below. Please have your network administrator implement the settings listed below.

1. Open the outbound ports listed in Table 1.
2. Whitelist the IP addresses in Table 2.
3. Configure the one-to-many NAT translations defined in Table 3. Please provide the public IP information to Streeme.
4. Configure the VLANs listed in Table 4. Please provide the subscriber services IP port information to streeme.
5. The SSL information resolved by external DNS servers will be configured by Streeme.
6. Verify power and cooling requirements in Table 6.

Firewall open outbound ports (Table 1)

Source IP	Destination IP	Ports	Protocol	Direction	Description
Customer network	Any	67	TCP	Outbound	Streeme
		111	TCP	Outbound	Streeme
		323	TCP	Outbound	Streeme
		611	TCP	Outbound	Streeme
		5353	TCP	Outbound	Streeme
		44689	TCP	Outbound	Streeme

Firewall open Inbound & Outbound IP (Table 2)
The services below should be open to inbound and outbound traffic.

Inbound Source	Source IP	Destination
tvserviceportal.com	54.205.81.245	172.21.50.75 MGMT Media Server
monitoring.tvserviceportal.com	18.210.113.62	172.21.50.75 MGMT Media Server
Middleware	52.39.30.72	172.21.50.75 MGMT Media Server
Service VPNs (Static)	107.172.254.33 185.153.178.243 23.114.68.113	172.21.50.75 MGMT Media Server 172.21.50.76 iDRAC Media Server 172.21.50.77 Stream Monitoring PC

One-To-Many NAT with static public IP (Table 3)

Public IP	Device	Protocol	Public Port	LAN IP	Local Port	Allowed IPs
IP NEEDED	Unified Media Server	TCP	80	172.21.50.75	80	*See table 2*
		TCP	22	172.21.50.75	22	
		TCP	443	172.21.50.75	443	
		TCP	9090	172.21.50.75	9090	
IP NEEDED	Unified Media Server iDRAC	TCP	443	172.21.50.76	443	
		TCP	5900	172.21.50.76	5900	
		TCP	5901	172.21.50.76	5901	
IP NEEDED Desktop Anywhere	Stream Monitoring PC	TCP	-	172.21.50.77	-	

Notes: Service is limited by broadcast content owners to the service location LAN. To monitor and verify streams during a support event Streeme requires remote access behind the firewall on the subscriber network via registered VPN.

VLANs / Subnet's (Table 4)

VLAN #	Description	Address Block	Gateway
	Management	172.21.50.0/23	172.21.50.1
	Subscriber Content	172.21.82.0/23	172.21.82.1

SSL (Table 5)

Content Server Address	Local Address
https://live.streeme.tv	172.21.82.248:80 (Resolved via DNS server)

Power & Environmental (Table 6)

	COM3000	Unified Server PowerEdge 740XD	[1]Supplemental Transcoder
Dimensions			
Form Factor	5U	2U	NA
Weight (lbs.)	32.77		NA
Height (Inches)	8.7		NA
Depth (Inches)	15.8		NA
Power			
Max Watts	1200	1600	NA
Input Voltage - Max	264	TBD	NA
Input Voltage - Min	90	250	NA
Input Current - Max Amps	9	15	NA
A\C outlets	2	2	NA
Plug Type	Standard	Standard/NEMA 6-15	NA
UPS Required	Optional	Optional	NA
Thermals			
Low Operating Temp.	32		NA
High Operating Temp	122		NA
BTU/h	235		NA

[1]Supplemental Transcoder will not be deployed at this location.

Media Server Connections (Table 7)
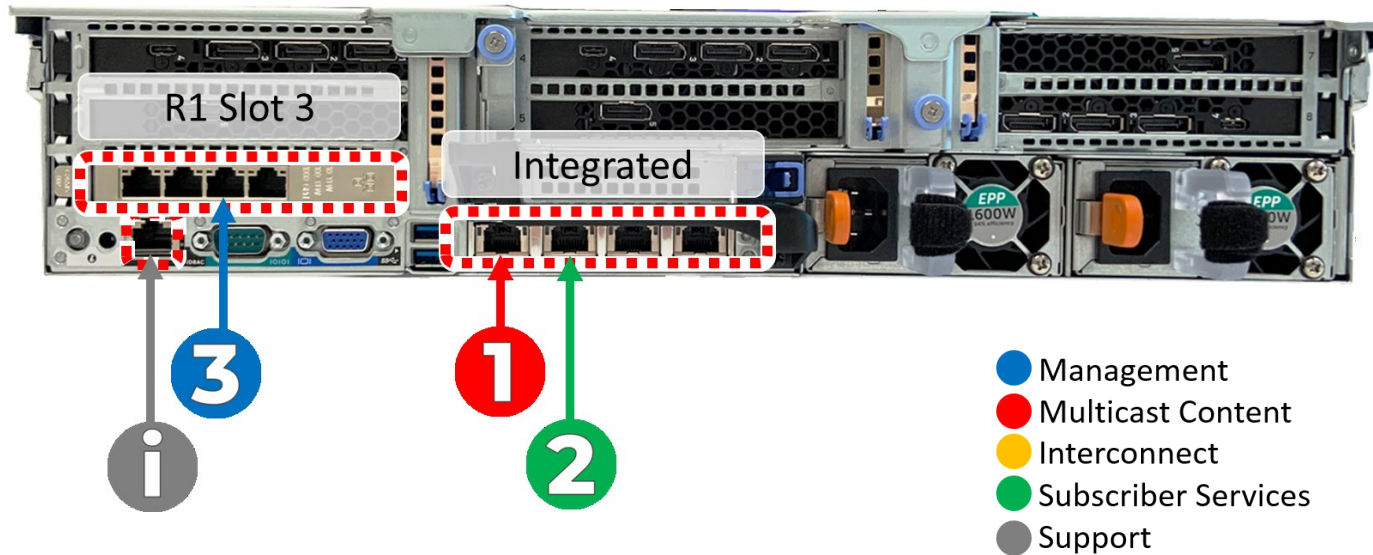
Port Group	Function	NIC IP	Gateway	Mask	Cable	Cable End Point
Riser 1; Slot 3						
Port 1 (1Gb)	Open					
Port 2 (1Gb)	Open					
Port 3 (1Gb)	Management	172.21.50.75	172.21.50.1	255.255.254.0	CAT-6	Customer Switch
Port 4 (1Gb)	Open					
Integrated						
Port 1 (10Gb)	Multicast Source	172.21.82.249	172.21.82.1	255.255.254.0	CAT-6	If via Content Aggregation Switch
Port 2 (10Gb)	Subscriber Services	172.21.82.248	172.21.82.1	255.255.254.0	CAT-7	Customer Switch
Port 3 (1Gb)	Open					
Port 4 (1Gb)	Open					
iDRAC						
Port 1 (1Gb)	Support	172.21.50.76	172.21.50.1	255.255.254.0	CAT-6	Customer Switch